

## **ABSTRACT**

A method for fabricating a current-perpendicular-to-plane (CPP) giant magnetoresistive (GMR) sensor of the synthetic spin valve type is provided, the method including an electron-beam lithographic process employing both primary and secondary electron absorption and first and second self-aligned lift-off processes for patterning the capped ferromagnetic free layer and the conducting, non-magnetic spacer layer. The sensor so fabricated has reduced resistance and increased sensitivity.